

TILTED VERTICAL ALIGNMENT OF LIQUID CRYSTALS EMPLOYING
INORGANIC THIN FILM COMPOSITION AND ION BEAM TREATMENT

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ABSTRACT OF THE DISCLOSURE

A liquid crystal display device includes an alignment layer with constituent materials. The constituent materials have a stoichiometric relationship configured to provide a given pretilt angle. Liquid crystal material is provided in contact with the alignment layer. A method for forming an alignment layer for liquid crystal displays includes forming the alignment layer on a substrate by introducing an amount of material to adjust a stoichiometric ratio of constituent materials wherein the amount is determined to provide a given pretilt angle to the alignment layer. Ions are directed at the alignment layer to provide uniformity of the pretilt angle.